

Serial No. 10/717,614
Amendment AF Dated: February 7, 2006
Reply to Office Action Mailed: October 7, 2005
Attorney Docket No. 010739.51198D1

Amendments to the Claims:

The listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1.- 10. (Cancelled).

Claim 11. (Previously Presented) A process for manufacturing a combustion chamber for a rocket drive, comprising:

producing a fibrous structure comprising layers of carbon-containing fibers which form a three-dimensional matrix;

producing a ceramic matrix composite material by feeding silicon into said fibrous structure to form a silicon carbide matrix; and

making at least one composite material jacket of said combustion chamber from said composite material; wherein,

said producing step comprises forming first, second and third layers of fibers or bundles of fibers, wherein fibers of said first layer extend in a first direction in space; fibers of said second layer extend in a second direction in space; and fibers of said third layer extend in a third direction in space; and

wherein said first, second, and third layers penetrate each other at least partially; and

 said forming of first, second and third layers includes separating said fibers or bundles of fibers of the respective layers from each other such that in each layer, fibers or bundles of fibers of another layer can be disposed in resulting spaces.

Claim 12. (Cancelled)

Claim 13. (Original) A process according to Claim 11, wherein said first, second and third layers of said fibrous structure are connected together by means of textile technology.

Claim 14. (Previously Presented) A process according to Claim 13, wherein said first, second, and third layers are connected together by a technique selected from the group consisting of weaving and sewing.

Claim 15. (Currently Amended) A process according to Claim 11, further comprising forming channel-shaped spaces in at least one of on the surface of the fibrous structure and in the fibrous structure.

Claim 16. (Previously Presented) A process according to Claim 15, wherein said channel-shaped spaces are formed in the surface of the composite material by mechanical treatment.

Claim 17. (Currently Amended) A process according to Claim 15,
~~wherein further comprising applying a metal coating at least to~~ surface areas of
the composite material ~~provided with that have~~ said channel-shaped spaces, ~~are~~
~~coated with metal.~~

Claim 18. (Currently Amended) A process according to Claim 16,
~~wherein further comprising applying a metal coating at least to~~ the surface areas
of the composite material ~~provided with that have~~ said channel-shaped spaces,
~~are coated with metal.~~

Claim 19. (Previously Presented) A process according to Claim 11,
further comprising arranging channel-shaped contracting bodies on at least one
of on the surface of said fibrous structure and in said fibrous structure.

Claims 20.-22. (Cancelled)

Claim 23. (Previously Presented) A process for manufacturing a
combustion chamber for a rocket drive, comprising:

producing a fibrous structure comprising layers of carbon-containing fibers which form a three-dimensional matrix, said three-dimensional matrix having first, second and third layers of fibers, wherein fibers of said first layer extend in a first direction in space; fibers of said second layer extend in a second direction in space; and fibers of said third layer extend in a third direction in space;

producing a ceramic matrix composite material by feeding silicon into said fibrous structure to form a silicon carbide matrix;

making at least one composite material jacket from said ceramic matrix composite material;

affixing a load-bearing external jacket on said composite material jacket; and

providing an intermediate layer between said external jacket and said composite material jacket, wherein a thermal expansion coefficient of said intermediate layer is between thermal expansion coefficients of said external jacket and of said composite material jacket.

Claim 24. (Previously Presented) A process according to Claim 23, wherein:

said external jacket comprises a metal material;

said intermediate layer comprises a composite material with a metal matrix;

said intermediate layer is affixed on said composite material jacket; and

said external jacket is affixed on said intermediate layer.

Serial No. 10/717,614

Amendment AF Dated: February 7, 2006
Reply to Office Action Mailed: October 7, 2005
Attorney Docket No. 010739.51198D1

Claim 25. (Previously Presented) A process according to Claim 23, wherein said providing step comprises:

first affixing a fibrous structure on said composite material jacket; and

thereafter depositing a metal material on said fibrous structure with simultaneous infiltration of said fibrous structure with said metal material.

Claim 26. (Original) A process according to Claim 24, wherein said metal material is deposited by means of electroplating.

Claim 27. (Previously Presented) A process for manufacturing an intermediate layer between an internal jacket and an external jacket of a combustion chamber for a rocket drive, comprising:

affixing a fibrous structure made of carbon-containing fibers on the internal jacket; and

depositing a metal material on said fibrous structure with simultaneous infiltration of the fibrous structure with said metal material;

wherein at least one part of the internal jacket or the external jacket is made of a composite material with fibrous structure of carbon-containing fibers.

Serial No. 10/717,614

Amendment AF Dated: February 7, 2006
Reply to Office Action Mailed: October 7, 2005
Attorney Docket No. 010739.51198D1

Claim 28. (Previously Presented) A process according to Claim 27, wherein said metal material is deposited by means of electroplating.

Claim 29. (Previously Presented) The process according to Claim 27, wherein

said depositing step includes formation of said external jacket, substantially simultaneously with infiltration of the fibrous structure with said metal material.

Claim 30. (New) The process according to Claim 24, wherein said providing step comprises forming said metal matrix using the same metal material contained in said external jacket.